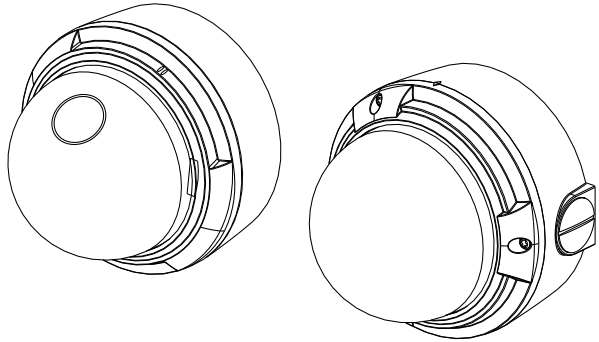
Ultra Resolution
Day & Night Dome Camera

P/N 01.BSM.11.0070201D
V5.00

INSTRUCTION MANUAL

DIGIMERGE

Ultra Resolution
Day & Night Dome Camera



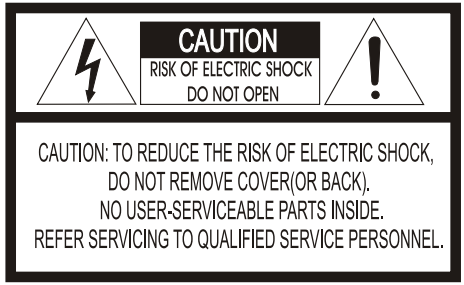
Vandal Models: DPV24D / DPV24TLX
Indoor Models: DPD23D / DPD24D

Please read this manual thoroughly before use and keep it handy for future reference.

WARNINGS AND CAUTIONS:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

CAUTION:


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER(OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

PRECAUTIONS

Safety ----------

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.

Unplug the unit from the wall oulet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials(curtains, draperies) that may block the ventilation holes.

Height and vertical linearity controls located at the rear panel are for special adjustments by qualified personnel only.

Installation ----------

Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust, mechanical vibration.

The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.

Cleaning ----------

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzine as they might damage the finish of the unit.

Retain the original carton and packing materials for safe transport of this unit in the future.

FCC COMPLIANCE STATEMENT

FCC INFORMATION : THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

CAUTION : CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS A DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

CET APPAREIL NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.

CE COMPLIANCE STATEMENT

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

IMPORTANT SAFEGUARDS

1. READ AND RETAIN INSTRUCTIONS
Read the instruction manual before operating the equipment. Retain the manual for future reference.

2. CLEANING
Turn the unit off and unplug from the power outlet before cleaning. Use a damp cloth for cleaning. Do not use harsh cleansers or aerosol cleaners.

3. ATTACHMENTS
Do not use attachments unless recommended by manufactured as they may affect the functionality of the unit and result in the risk of fire, electric shock or injury.

4. MOISTURE
Do not use equipment near water or other liquids.

5. ACCESSORIES
Equipment should be installed in a safe, stable location. Any wall or shelf mounting accessory equipment should be installed using the manufacture's Instructions. Care should be used when moving heavy equipment. Quick stops, excessive force, and uneven surfaces may cause the equipment to fall causing serious injury to persons and objects.

6. VENTILATION
Openings in the equipment, if any, are provided for ventilation to ensure reliable operation of the unit and to protect if from overheating. These openings must not be blocked or covered

7. POWER SOURCES
The equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied at the installation location, contact your dealer. For equipment designed to operate from battery power, refer to the operating instructions.

8. GROUNDING OR POLARIZATION
Equipment that is powered through a polarized plug (a plug with one blade wider than the other) will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. Do not defeat the safety purpose of the polarized plug.

Alternate Warning: If the equipment is powered through a three-way grounding-type plug, a plug having a third (grounding) pin, the plug will only fit into a grounding-type power outlet. This is a safety feature. Do not defeat the safety purpose of the grounding-type plug. If your outlet does not have the grounding plug receptacle, contact your local electrician.

9. CORD AND CABLE PROTECTION
Route power cords and cables in a manner to protect them from damage by being walked on or pinched by items places upon or against them.

10. LIGHTNING
For protection of the equipment during a lightning storm or when it is left unattended and unused for long periods of time, unplug the unit from the wall outlet. Disconnect any antennas or cable systems that may be connected to the equipment. This will prevent damage to the equipment due to Lightning or power-line surges.

11. OVERLOADING
Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

12. SERVICING
Do not attempt to service the video monitor or equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

13. DAMAGE REQUIRING SERVICE
Unplug the equipment from the wall outlet and refer servicing to qualified service personnel under the Following conditions:

A. When the power supply cord or the plug has been damaged.
B. If liquid has spilled or objects have fallen into the Unit.
C. If the equipment has been exposed to water or other liquids.
D. If the equipment does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage to the unit.
E. If the equipment has been dropped or the casing Damaged.
F. When the equipment exhibits a distinct change in performance.

14. REPLACEMENT PARTS
When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

15. SAFETY CHECK
Upon completion of any service or repairs to the equipment, ask the service technician to perform safety checks to verify that the equipment is in proper operating condition.

16. FIELD INSTALLATION
The installation of equipment should be made by a qualified service person and should conform to all local codes.

17. *CAUTION-these servicing instructions are for use by qualified service personnel only. to reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.*

17-1 *Regulated Class 2 power source only.*

17-2 *Do NOT use power source other than that specified.*

INTRODUCTION

Features

All Models Feature:

- 1/3" Sony Super HAD™ II CCD
- Excellent low light performance using Polaris Vision2 technology.
- 0.15 Lux / F1.2 (Color) 0.001Lux w/Sense-Up at x256
- 600 TV lines(Color) of resolution
- 3D Digital Noise Reduction (3D-DNR)
- OSD menu control
- Privacy Masking / Motion Detection
- VIDEO OUT(BNC)
- Operates in 12VDC or 24VAC
- Test Monitor Output
- Camera Mounting: Surface / Semi-Flush Mounting (Indoor Dome only)

DPD23D

- Indoor Dome Model
- 3.6mm Fixed Lens

DPD24D

- Indoor Dome Model
- 2.8-10.5mm Varifocal Day/Night Lens F1.4 DC Iris

DPV24D

- Vandal Resistant Dome Model
- 2.8-10.5mm Varifocal Day/Night Lens F1.4 DC Iris

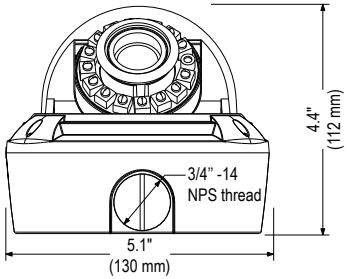
DPV24TLX

- Vandal Resistant Dome Model
- 2.8-10.5mm Varifocal Day/Night Lens F1.4 DC Iris
- Smart IR technology
- ICR filter to give clear night vision
- ArcticPro technology with built-in heater
- 0 Lux with IR LED

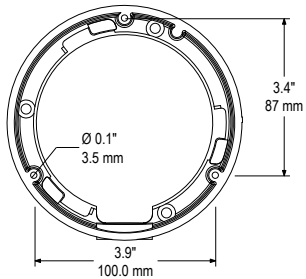
SPECIFICATIONS

General	DPD23D	DPD24D	DPV24D	DPV24TLX
Power source	DC 12V / AC 24V ±10%			
Power consumption	2.5 Watts			12 Watts (Heater On)
Minimum Power Requirement	250mA			1A
Image sensor	1/3" Sony Super HAD™ II CCD			
Total pixels	811 (H) x 508 (V)			
Scanning system	2:1 interlace			
Scanning frequency	15.734KHz(H), 59.95Hz(V)			
Sync.system	Internal / Line Lock			
Resolution	600 TV Lines			
Min.Illumination	0.15Lux / 0.001Lux Sense Up at x256			0 Lux IR LED On
Video output	1.0 Vp-p (75 ohm, composite)			
S/N Ratio	more than 50dB (AGC OFF)			
Operating Temperature	-10°C - +50°C			-40°C - +50°C
Power input	2-Pin terminal block (Detachable)			
Video output	BNC Connector (2nd video RCA)			
Lens mount	Fixed mount			
Lens	3.6mm Fixed	2.8 - 10.5mm F1.4 Varifocal DC Auto iris		
Operating humidity	0-90% (non-condensing)			

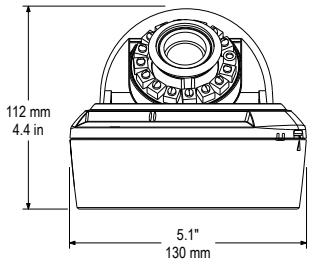
MEASUREMENTS



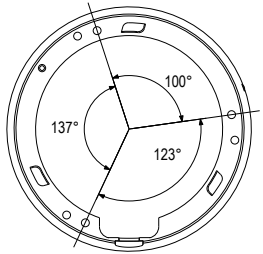
Vandal Dome Dimensions



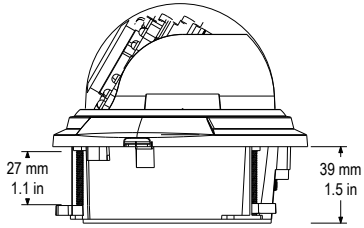
Base hole positions



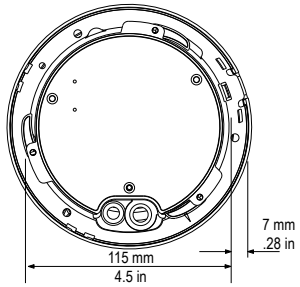
Indoor Dome Dimensions



Underside Base hole positions



Indoor Dome Flush Mount
Fitting dimensions



Flush Mount Cutout
and Fitting Clearance

Indoor Dome package contains the following:

- Camera in housing ----------1
- Camera Locking screws (PA3 Type)----------2
- Instruction guide (This Document)----------1
- Surface & Flush Mounting Templates----------2
- RCA - BNC test cable----------1
- Junction Box Plate----------1
- Mounting screw pack ----------1

Locking Screw | Conduit Key | Allen Key

Vandal Dome package contains the following:

- Camera in housing ----------1
- Camera Locking screws (PM4 Type) ----------3
- Instruction guide (This Document)----------1
- Surface Mounting Template ----------1
- RCA - BNC test cable----------1
- Junction Box Plate----------1
- Mounting screw pack ----------1
- Tamper allen key----------1
- Conduit Key ----------1

Mounting Screws Pack.
3pc 70mm / 2.8in Screws
3pc 30mm / 1.2in Screws
3pc 40mm 1.6in plugs

JUNCTION BOX PLATE

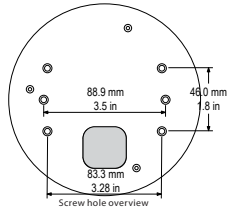
Junction box plate allows fitting of either Vandal dome or Indoor dome to standard 2S, 4S and Octagon junction boxes.

NOTE: Flush side of junction box plate should be attached to junction box

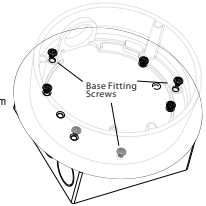
Junction Box fitting plate accessories:

- Junction Box Fitting plate ----------1
- 2S / 4S plate screws (KM3.5 Type) ----------4
- Octagon fitting screws (KM4 Type)----------2
- Base Fitting Screws PWM3 ----------3

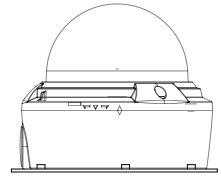
Base Fitting Screw. | Octagon Screw | 2S / 4S Screw



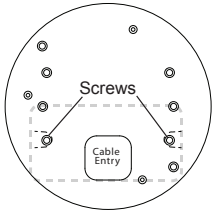
Screw hole overview



Vandal dome fitting illustration


Junction box fitting plate attached to camera

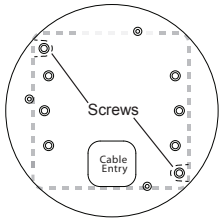
JUNCTION BOX INSTALLATION TYPES



2S FITTING

a. 2S Fitting requires only 2pcs of 2S/4S screws.

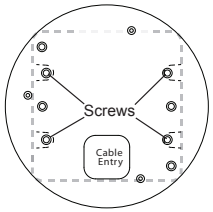
Note: You have a reduced space in which to hide cables using this type of installation. Recommended for indoor dome only.



4S FITTING

a. 4S Fitting requires 2pcs of 2S/4S screws.

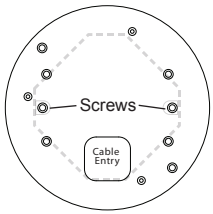
Note: Suitable for both indoor and vandal domes.



TWO GANG FITTING

a. Two gang fitting (switch box) requires 4pcs of 2S/4S screws.

Note: A two gang provides the most robust fitting. Suitable for both indoor and vandal domes.

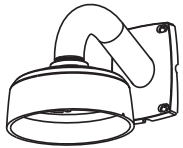


OCTAGON FITTING

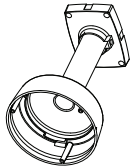
a. 4” Octagon fitting requires only 2pcs of Octagon screws.

Note: Screws used for the octagon fitting are larger compared to those used for the 2S/4S (M4 type). Suitable for both indoor and vandal domes

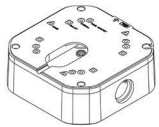
VANDAL DOME FITTINGS



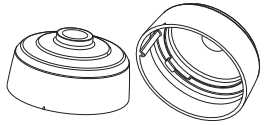
Wall Mount - model # MNTV2XW



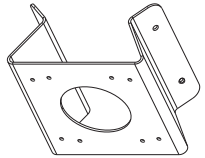
Pendant Mount - model # MNTV2XC



Junction Box Mount - model # MNTV2XB
Mount for either Vandal or Indoor Dome.
Can also mount MNTV2XC or MNTV2XW.

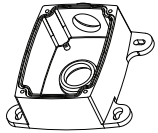


Pendant Cap - model # MNTV2XPC
Replaces the need for the camera base.
Compatible with ceiling conduit installations.

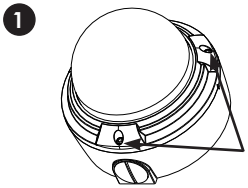


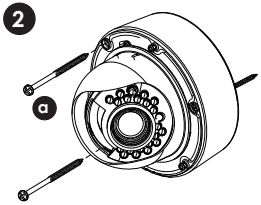
Corner Mount bracket - model # MNTV2XR
Can fit either MNTV2XW or MNTV2XJ.

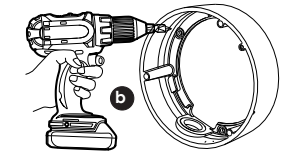
Pole Mount - model # MNTV2XP
Can fit either MNTV2XW or MNTV2XJ.

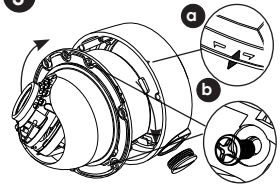


Junction Box Attachment for MNTV2XW & MNTV2XC - model # MNTV2XJ
Fits either wall mount and ceiling mount.
Symmetrical design - reversible for top or bottom conduit.









ATTENTION - If using DC power, follow the correct polarity as marked on the power cable.

1) Loosen the three tamper screws using the provided allen key. Lift the dome cover.

Note: If you plan to use conduit fitting, remove conduit cap using the provided conduit key.

Method 1 - Direct Attach Install

2a) Use the included mounting template (Installation Option 2) to mark and pre-drill the required holes. Remove 2 of the 3 base locking screws. Use 2pc of the 2.8" screws to mount the camera directly to the mounting surface.

Remove the 3rd base locking screw and install the 3rd 2.8" screw.

Go to step 4 on page 7 to complete installation.

OR

Method 2 - Camera Base Install

2b) Use the included mounting template (Installation Option 1) to mark and pre-drill the required holes. Remove the camera base by unscrewing the 3 base locking screws, and turn camera module approx. 5 degrees counter-clockwise to detach camera base from the camera module. Install the base to the correct holes as indicated on the mount template using the 1.2" screws. Go to step 3a.

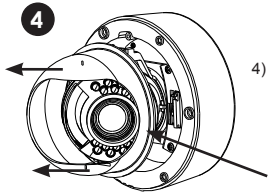
Method 3 - Junction Box Install

2c) Attach provided fitting plate to junction box (see page 4 for details). Remove the camera base by unscrewing the 3 base locking screws, and turn the camera module approx. 5 degrees counterclockwise to detach camera base from camera module. Install the base to the junction box using the base attachment screws. Go to step 3a.

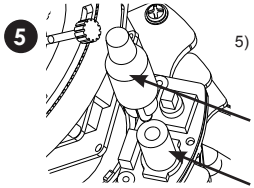
3a) Reinsert camera module into camera base by aligning the arrow notches on the edge of the camera module and the camera base (label on edge of camera module indicates the location of the arrow notch), and turning camera module clockwise to lock into place.

3b) Use the 3 base locking screws to secure camera base to camera module.

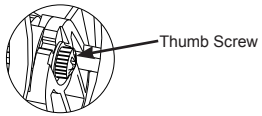
Go to step 4 on page 7 to complete installation.

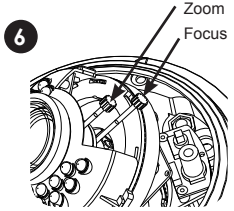


4) Remove camera cover by squeezing the back and front of the cover (as indicated by the arrow indicators) at the same time and lifting it up and away from the lens.



5) Insert the included video test cable into the RCA jack and connect to a test monitor to set up camera.



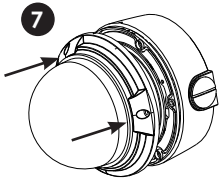


6a) Adjust camera viewing angle and secure into place by tightening thumb screw using a flat head screwdriver.

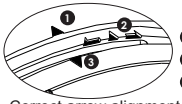
Note: Lens adjustment levers are by default in the locked position. Turn counter clockwise to unlock. Tighten levers to secure lens setting.

6b) Adjust lens and OSD as required.

6c) Re-attach the camera cover, using the thumb screw as a guide, until it snaps into place.



7a) Re-attach the dome cover. Align arrows according to the diagram below to ensure a weatherproof seal.



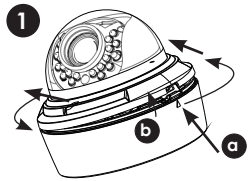
1. Arrow on camera base
2. Arrow on camera module (inside camera)
3. Arrow on dome cover.

Correct arrow alignment

7b) Use the allen key to tighten the tamper screws.

Note: Make sure dome cover cord does not get caught in the rubber seal.

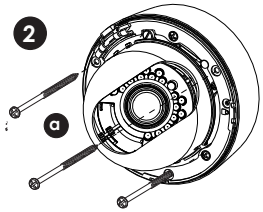
INSTALLATION. INDOOR DOME (Surface Mounting)



ATTENTION - If using DC power, follow the correct polarity as marked on the power cable.

1a) Press down on the tab marked with an arrow to lift up the dome cover slightly

1b) While pressing on tab, twist the dome cover counter clockwise just a few degrees to release dome cover from back clips.
Lift off the cover.



Method 1 - Direct Attach Install

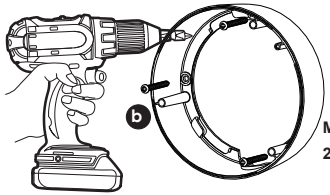
2a) Use included mounting template to mark and pre-drill the required holes. Use included 2.8" screws to mount the camera directly to the mounting surface.

Go to step 3 on page 9 to complete installation.

OR

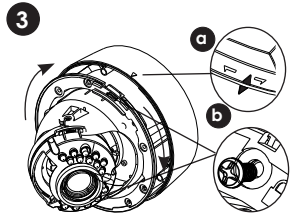
Method 2 - Camera Base Install

2b) Use the included mounting template (Installation Option 1) to mark and pre-drill the required holes. Remove the camera base by unscrewing the base locking screws (indicated by padlock markings) and turn camera module approx. 5 degrees counterclockwise to detach camera base from the camera module. Install the base as indicated using the 1.2" screws. Go to step 3a.



Method 3 - Junction Box Install

2c) Attach provided fitting plate to junction box (see page 4 for details). Remove the camera base by unscrewing the 3 base locking screws, and turn the camera module approx. 5 degrees counterclockwise to detach camera base from camera module. Install the base to the junction box using the base attachment screws. Go to step 3a.

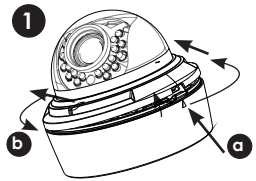


3a) Reinsert camera module into camera base by aligning the arrow notches, and turning camera module clockwise to lock into place.

3b) Reinstall the base locking screws. (indicated by padlock markings)

Go to step 3 on page 9 to complete installation.

INSTALLATION. INDOOR DOME (Semi-Flush Mount)

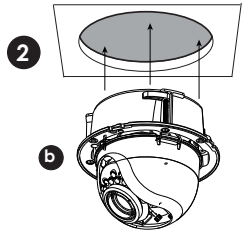


ATTENTION - If using DC power, follow the correct polarity as marked on the power cable.

1a) Press down on the tab marked with an arrow to lift up the dome cover slightly

1b) While pressing on tab, twist the dome cover counter-clockwise to release dome cover

1c) Remove the camera base by unscrewing the base locking screws (indicated by a padlock markings) and turn camera module approx. 5 degrees counter-clockwise to detach camera base from the camera module.



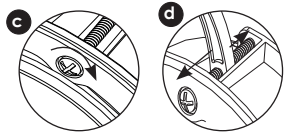
a) Cut semi flush mounting hole into surface using provided Semi-flush Mount Cut-out Template.

Note: Always cut using the inside line of the cutout template

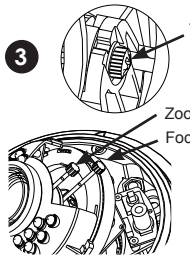
b) Insert camera into cutout. Make sure that the mounting arms are not extended.

c) Turn screwdriver clockwise to unlock all of the 3 mounting arms.

d) Continue turning clockwise to move mounting arms down until they make contact with inner mounting surface.



Note: Once mounting arms have made contact with the inner mounting surface, do not apply too much pressure to avoid damaging surface.



a) Remove camera cover by squeezing the back and front of the cover as indicated by the arrow indicators at the same time and lifting it up and away from the lens.

b) Insert the included video test cable into the RCA jack and connect to a test monitor to set up camera. (see page 10).

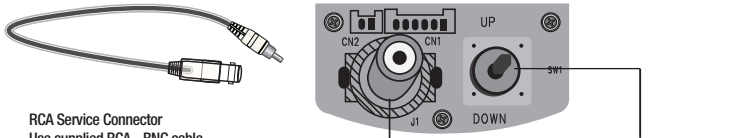
c) Adjust camera viewing angle and secure into place by tightening thumb screw using a flat head screwdriver. Adjust lens and OSD as required.

Note: Lens adjustment levers are by default in the locked position. Turn counter clockwise to unlock. Tighten levers to secure lens setting.

4 a) Re-attach the camera cover, using the thumb screw as a guide, until it snaps into place.

b) Reattach dome cover.

Menu Setup



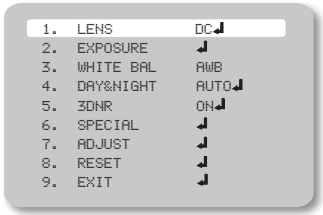
RCA Service Connector
Use supplied RCA - BNC cable
If you require BNC output.

OSD function joystick. Pressing down on joystick acts as ENTER function.

MENU TREE SUMMARY

LENS	• DC or MANUAL (Model DPD23D)
EXPOSURE	• SHUTTER • AGC • SENS-UP • BLC • D-WDR • RETURN
WHITE BAL	• AWB • ATW • AWC SET • OUTDOOR • INDOOR • MANUAL
DAY&NIGHT	• AUTO • COLOR • B/W (not on Model DPV24TLX)
3DNR	• OFF • ON
SPECIAL	• CAM TITLE • D-EFFECT • MOTION • PRIVACY • SYNC • LANGUAGE
ADJUST	• SHARPNESS • MONITOR • OSD COLOR
RESET	• FACTORY • RETURN

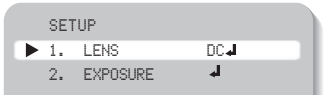
1. Press down on the function joystick to access the setup menu.
   • Main setup menu is displayed on the monitor screen.

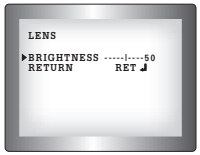


2. Select a function by moving the joystick up and down and move left or right to change setting value and press joystick to confirm selection.
3. If a menu option features a '↵', a sub menu is available which can be accessed by pressing down on the joystick
4. Once finished updating settings, highlight 'EXIT' and press down on the joystick to exit setup menu

LENS

Using this function, you can control screen brightness.
1. Highlight 'LENS' in the main setup menu
2. Press the joystick to access the DC lens setup menu.
3. After completing setting update, highlight 'RETURN' to save setting and return to previous menu

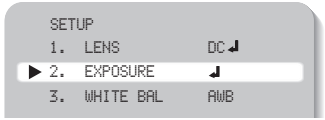




• NOTE
The brightness level can be adjusted within the range of 0 - 100. Default setting - 50

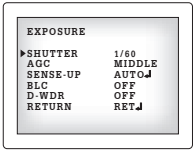
With Model DPD23D DC Lens setting is MANUAL

EXPOSURE



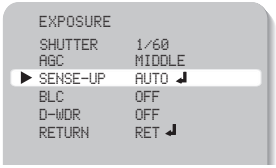
The EXPOSURE menu is used to set the automatic light control method for the camera.

1. Highlight 'EXPOSURE' in the main setup menu
2. Press the joystick to access the exposure setup menu.



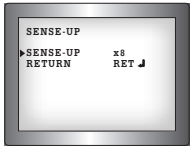
- SHUTTER : Select the shutter mode. (1/60, FLK - 1/100,000 sec, x2 - 256)
  Default setting is 1/60
- AGC: Auto gain control (LOW / MIDDLE / HIGH)
  Default setting is MIDDLE

SENSE-UP



Select digital slow shutter speed setting in order to allow extra light into the camera thereby providing higher sensitivity in low light conditions. NOTE only adjustable if SHUTTER setting is set to 'AUTO' or '1/60'

- OFF : Deactivates the SENS-UP function.
- AUTO : Activates SENS-UP function. Enter submenu to select maximum low shutter value



Selectable low shutter values are as follows:
x2 x4 x8 x16 x32 x64 x128 x 256 (default - x8)
For proper setup, check setting during low light / night time conditions.

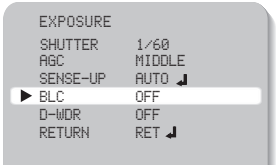
Notes

- **It's recommended to keep the value in the x2 to x64 range to limit ghosting effect.**

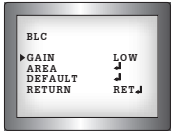
BACKLIGHT (BLC)

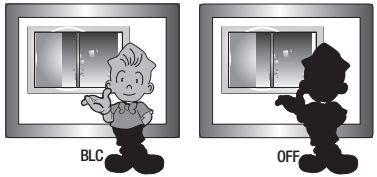
The BLC menu is used to adjust backlight compensation function to sharpen subjects in backlight situations

1. Highlight 'BLC' in the exposure setup menu.
2. Press the joystick to access the BLC setup menu.



- BLC (Backlight Compensation):
  Enter the BLC submenu to select an area in the scene which requires enhancing.
  Change the GAIN value (LOW/MIDDLE/HIGH) to set level of enhancement.





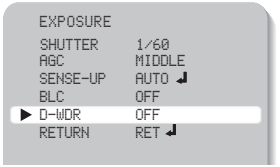
- HSBLC (Highlight Compensation):
  If a scene contains very bright light sources (e.g. car headlights),they will be masked to provide greater detail in the rest of the scene.
  Enter the HSBLC submenu to select an area in the scene which requires masking.
  Change the LEVEL value to set level of masking and change MODE to set whether to mask all day long or during low light conditions only.

  Default setting is OFF

Wide Dynamic Range (E-WDR)

- D-WDR : The D-WDR menu is used to adjust dynamic range of the camera electronically. This is especially useful in high contrast scenes in order to brighten up darker parts of the scene.

1. Highlight 'D-WDR' in the exposure setup menu.
2. Move the the joystick left/right to change setting to OFF/INDOOR/OUTDOOR. Default setting is OFF



- INDOOR : Preferred setting when camera is installed indoors. Default settings are LOW-6 and HIGH-9

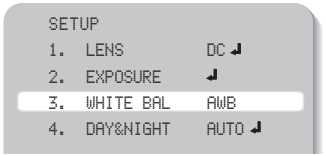
OUTDOOR:
Preferred setting when camera is installed outdoors.
Default settings are LOW-11 and HIGH-11

White Balance (White Bal.)

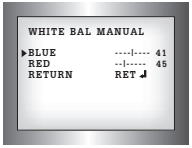
White balance function adjusts displayed colors to account for different lighting temperatures.

1. Highlight 'WHITE BAL' in the main setup menu.
2. Move the the joystick left/right to change setting to:
   AWB / AWC➔SET / MANUAL / INDOOR / OUTDOOR/ ATW

Default setting is AWB (Auto White Balance)



- AWB(Automatic White Balance) : This mode automatically adjusts white balance
- AWC➔SET : To obtain the optimum state under the current luminance levels, direct the camera to point toward a sheet of white paper and press the SET button. If the environment changes, including the light source, the white balance will require re-adjustment.
- MANUAL : The manual adjustment setting enables detailed color adjustment. Select 'ATW' or 'AWB' first then change to 'MANUAL' adjustment setting and press the joystick. Set the appropriate color temperature by increasing / decreasing the red and blue color values and monitor the color changes of the object. Default settings are BLUE-41, RED-45



- INDOOR : Select this when the color temperature is between 4,500˚K and 8,500˚K.
- OUTDOOR : Select this when the color temperature is between 1,800˚K and 10,500˚K. (sodium light)
- ATW(Auto Tracking White Balance) : This mode can be used within the color temperature range 1,800˚K ~ 10,500˚K

Notes

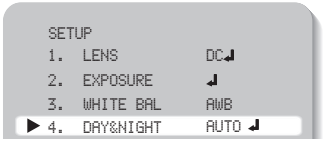
- White Balance may not work properly under the following conditions. In this case select the AWC mode.

1 When the color temperature of the environment surrounding the subject is outside of the supported temperature range (e.g. clear sky or sunset).
2 When the ambient illumination of the subject is dim.
3 If the camera is directed towards a fluorescent light or is installed in a place where illumination changes dramatically, the White Balance function may become unstable.

DAY/NIGHT

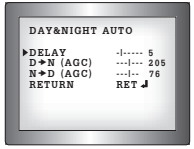
The DAY/NIGHT menu is used to configure the day and night related settings for the camera.

1. Highlight 'DAY&NIGHT' in the main setup menu
2. Move the the joystick left/right to change setting to AUTO/COLOR/ B/W
3. Press the joystick to access the submenu's for AUTO and B/W settings



- COLOR : The picture is always displayed in color.
- B/W : The picture is always displayed in black and white. Press joystick to turn ON or OFF the burst signal in B/W mode.

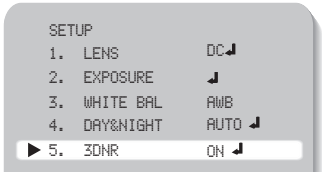
- AUTO : The mode is switched to 'Color ' in a normal environment, but switches to 'B/W' mode when ambient illumination is low. To set up the switching time or speed for AUTO mode, press the joystick.
  You can now set the Delay in seconds for the Day - Night and the Night - Day transitions.



Digital Noise Reduction (3D DNR)

This function reduces the background noise in a low luminance environment.

1.Highlight '3DNR' in the main setup menu.



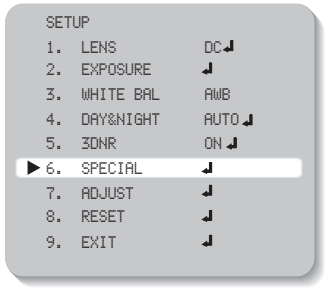
2. Move the the joystick left/right to change setting to OFF/ON
   - OFF - Noise is not reduced
   - ON - Noise is reduced
3. Press the joystick to access the submenu for ON setting.
   In the 3DNR submenu you can adjust the noise reduction level values range from 0 to 100. Default setting is 60.

Notes

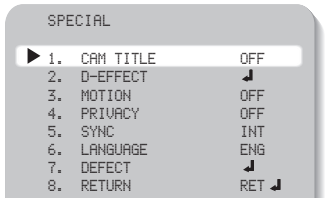
- Noise levels can be very subtle, and may not be always noticable on adjusting
- When adjusting the noise reduction level in 3DNR submenu, remember that the higher the level set, the more the noise level will be reduced, however this can have a softening effect on the image.

SPECIAL.

1. Highlight 'SPECIAL' in the main setup menu.



2. Press the joystick to access the submenu for SPECIAL settings.



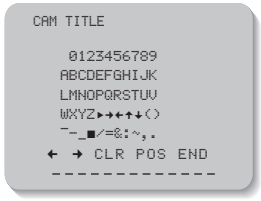
⊃ CAM TITLE : If you enter a title, the title will appear on the monitor.

1. Move the the joystick left/right to change setting to OFF/ON
   - ⊃ OFF - No camera title is displayed
   - ⊃ ON - Camera title is displayed

Notes

- When the CAM TITLE is OFF no title will be displayed on the monitor even if you had previously setup a name. This is the master display setting.
- Only English is available in this mode for camera title.
- Only max 15 characters for the title allowed.

2. Press the joystick to access the submenu for ON setting. Here you will be able to enter the camera title.



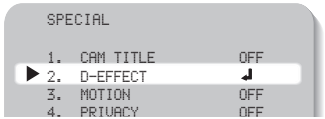
3. Move the the joystick left/right/up/down to select a letter/number/symbol and press joystick to confirm selection. Repeat steps until camera title is completed and select 'POS' to select on-screen location for title and 'END' to save title. You can enter up to a maximum of 15 characters.

Notes

- If you move th e cursor to CLR and press the joystick , all the letters are deleted. To edit a letter, change the cursor to the bottom left arrow and press the joystick. Move the cursor over the letter to be edited, move the cursor to the letter to be inserted and then press the joystick.

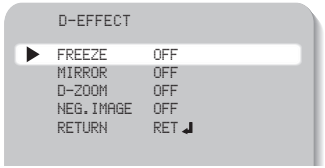
- D-EFFECT: Applies digital effects to camera image.

1. Highlight 'D-EFFECT' in the SPECIAL setup menu.



2. Press the joystick to access the submenu.

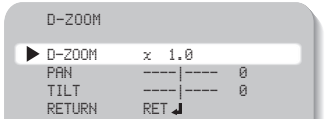
Notes



3. FREEZE: Freezes current image displayed

4. MIRROR: MIRROR will mirror the image.
V-FLIP, will flip the image vertically.
ROTATE, will vertically flip and also mirror.
OFF, no image effect applied.

5. D-ZOOM: Allows digital zoom and position to be set.

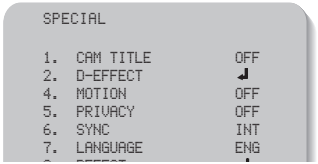


Digital Zoom can range from 1x to 32x. Too much digital zoom will result in blocky image
Pan / Tilt range is -100 to 100.

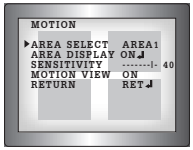
- MOTION:

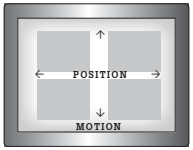
You can monitor activity more efficiently, because a signal is generated by the camera whenever motion is detected. Visual notification is also available.

1. Highlight 'MOTION' in the SPECIAL setup menu



2. Move the the joystick left/right to change setting to OFF/ON
3. Press the joystick to access the submenu for ON setting



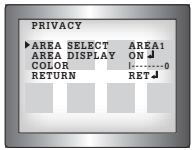


- AREA SELECT: Select motion detection area number. AREA 1-4
With the area slected will be shown flashing on and off visually.
- AREA DISPLAY: Turns selected motion detection area ON or OFF.
Pressing joystick when ON will change display to set the position and the size of the area. Moving the joystick will change the setting, and press joystick to accept.
After you have set both position,size you can RET or AGAIN
- SENSITIVITY: Adjust sensitivity for selected motion detection area (0-40).
- MOTION VIEW: Turn motion detection view ON or OFF. When turned on, upon detection of motion, motion is shown as green dots to indicate area in which motion is taking place.

Notes

- **Motion detection is normally part of a DVR which would provide more flexible customization options.**

CAMERA ADJUSTMENT

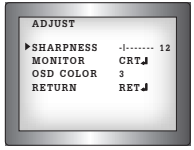


- PRIVACY:
  Hide an area so that it is not displayed on the monitor.
  1. Highlight 'PRIVACY' in the SPECIAL setup menu.
  2. Move the the joystick left/right to change setting to OFF/ON
  3. Press the joystick to access the submenu for ON setting

  - AREA SELECT: Select privacy area number. AREA 1-8
    With the area slected will be shown flashing on and off visually.
  - AREA DISPLAY: Turns selected privacy area ON or OFF.
    Pressing joystick when ON↵ will change display to set the position and the size of the area. Moving the joystick will change the setting, and press joystick to accept.
    After you have set both position,size you can RET or AGAIN
  - COLOR: Range 0-15. Sets the color of the selected privacy area.

- SYNC:
  With 24V AC power source, select INT / EXT for Sync, use left/right to select.
- LANGUAGE:
  The OSD supports English ,Korean,Japanese, Chinese, Simplified Chinese,Russian
- DEFECT:
  For Service use only!

ADJUST



- ADJUST:
  - SHARPNESS: Image edge sharpness 0 (soft image) to 31 oversharp (default is 12)
  - MONITOR: CRT/LCD/USER setting for monitor type Note: For direct monitor connection only. (default is CRT)
  - OSD COLOR: 0-15 color for OSD menu text (default is 3)

RESET

- RESET:
  This will reset all settings for all menus to manufacturer defaults. This allow you to return to shipped settings from the manufacturer.

TROUBLE SHOOTING

Refer to the following table if you are experiencing trouble with your camera. Contact an authorized technician if the table does not provide you with a solution to the trouble.

- **Nothing appears on the screen.**
  Check that the power cord and line connection between the camera and monitor are connected properly.
  Check that you have properly connected VIDEO cable to the camera VIDEO output jack.
- **The image on the screen is dim.**
  Is lens stained with dirt? Clean lens with soft, clean cloth.
  Adjust the monitor contrast & brightness controls
  Re-position the camera if necessary.
- **The image on the screen is dark.**
  Adjust the contrast feature of the monitor.
  If you have an intermediate device, set the 75Ω / Hi-z properly.
- **The camera is not working properly, and the surface of the camera is hot.**
  Check that you have properly connected the camera to an appropriate power source.
- **The Motion Detection function does not work.**
  Check that MOTION is turned to ON in SPECIAL submenu.
- **Color is not correct.**
  Check the setting of WHITE BAL SETUP menu .

- **When the resistance value of copper wire is at [20˚C(68˚F)]**

Copper wire size (AWG)	#24(0.22mm²)	#22(0.33mm²)	#20(0.52mm²)	#18(0.83mm²)
Resistance (Ω/m)	0.078	0.050	0.030	0.018
Voltage Drop (V/m)	0.028	0.018	0.011	0.006

As shown in the table above, voltage decreases as the wire gets longer. Therefore use of an excessively long adaptor output line for connection to the camera may affect the performance of the camera.

*Standard voltage for camera operation : AC 24V ±10% or DC 12V ±10%
*There may be some deviation in voltage drop depending on the type of wire and the manufacturer.

Notes

- Be sure to connect power only after all the installation is complete.
- Use only UL listed Class 2 AC 24V power transformer.